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ABSTRACT

The participation of women in the physical sciences and engineering woefully lags behind that of men. One significant vehicle by which students learn to identify with various adult roles is through the literature they read. This annotated bibliography lists and describes biographies on women scientists primarily focusing on publications after 1980. The sections include: (1) anthropology, (2) astronomy, (3) aviation/aerospace engineering, (4) biology, (5) chemistry/physics, (6) computer science, (7) ecology, (8) ethology, (9) geology, and (10) medicine. (PR)

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BIOGRAPHIES OF WOMEN SCIENTISTS FOR YOUNG READERS

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Since Title IX was legislated in 1972, enormous strides have been made in the participation of women in several science-related careers. As indicated in Table 1, a greater proportion of doctorates in all fields were earned by women in the 1920's than in the 1960's; but in the 1970's and 1980's an increasingly larger percentage of collegiate degrees in all fields have gone to women. In fact, by the 1980's a greater number of bachelor's degrees were awarded to women than men. Nevertheless, the participation of women in the physical sciences and engineering woefully lags behind that of men; and the upward spiral evident in the 70's and early 80's has flattened out. Between 1984 and 1990 the proportion of bachelor's degrees awarded to women in the physical sciences and engineering respectively crept from 28% to 31% and from 14% to 15%.

Table 1
Percentage of Science and Engineering Degrees
Earned by Women, 1920's to 1980's

Field	1920's		1960's		1970's		1980's	
	N	%	N	%	N	%	N	%
PhD Engineering	2	0.9	77	0.4	424	1.4	1913	5.9
PhD Physical Sciences	247	7.6	1577	4.6	3946	8.2	7076	15.2
PhD Life Sciences	378	15.9	3078	11.6	8921	18.1	18337	32.0
All Doctorates	1826	15.3	18964	11.7	66202	20.8	108074	33.9
B.S. Engineering			1686	0.5	15295	3.4	106742	13.8
B.S. Physical Sciences			23751	13.6	38590	17.7	65083	27.5
B.S. Life Sciences			75258	22.4	193489	29.1	278745	42.7
All Bachelors			2106696	39.7	4177977	43.4	5555063	51.0

Based on Vetter, B. M. (1992).

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The roots of relatively low participation of women in the physical sciences and engineering degree programs can be found in the early experiences of children where nearly five times as many boys as girls report they have fixed something electrical or mechanical, but about the same proportion of girls and boys have tended a sick animal or unhealthy plant. While not the only influence on students' career choices, one significant vehicle by which students learn to identify with various adult roles is through the literature they read. It is important that students, both boys and girls, learn that more women than Marie Curie made contributions in science. McClintock, Goodall, Carson, Ride, Hopper, Sabin, Sanger, and others should be equally well known to adolescents as they contemplate their own futures.

Science and Children (Noyce, 1980) listed biographies of women in science written up through the 1970's. The biographies listed below of women in science extend the Noyce bibliography, primarily but not exclusively focusing on books that have appeared since 1980. All were selected because they were accurate, interesting, and realistic. Using the Fry Readability Scale, the grade level of each book is shown in parentheses. Books for grades four and lower are marked "easy;" and books for grade ten and above are marked "advanced." Under the particularly lengthy sections, recommendations have been made to assist selection. Please note, however, all the books are highly regarded. Overall, the American Women of Achievement series published by Chelsea House and the Women of Our Times series published by Viking, have consistently provided interesting and engaging portrayals of the women presented. These books have been indicated in the headings.

Some teachers have simply assigned biographies to be read; others have made certain the books were available and prominently displayed in the classroom or library. Some teachers have assigned reports on certain famous scientists; and lo and behold, the students found that all the scientists were female. Whatever the vehicle, students can be exposed to significant role models so that they learn that all careers are open to those who are motivated to achieve, regardless of sex.

Bibliography

Noyce, R. M. (1980). Women in Science: Biographies for Young Readers. Science and Children. 18(3), 24-26.

Vetter, B. M. (1992). Professional Women and Minorities (tenth edition). Washington, DC: Commission on Professionals in Science and Technology.

ANTHROPOLOGY

Margaret Mead

Many wonderful books have been written about the amazine life of Margaret Mead, the most famous anthropologist in the United States. Edra Ziesk's biography, Margaret Mead, is particularly captivating. Similarly, Susan Saunder's Margaret Mead, The World Was Her Family did an excellent job of informing and engaging the reader.

Castiglia, Julie. Margaret Mead. Englewood Cliffs, NJ: Silver Burdett Press, 1989, 129 p., illus. (7).

Margaret Mead's eventful life was told in this detailed book that provided an excellent explanation of the work she did with the people of primitive cultures. The author also furnished insight to Mead's personal triumphs and disappointments.

Ludel, Jacqueline. Margaret Mead. New York: Franklin Watts, 1983, 118 p., illus. (9).

This biography focused on Mead's work as an anthropologist, as well as her personal life. The author detailed Mead's work with adolescents in Samoa and the Manus of the Admiralty Islands.

Mead, Margaret. Blackberry Winter. New York: William Morrow & Company, 1972, 305 p., illus. (advanced).

Mead told her own story in an engaging fashion for the advanced reader. Mead described her work and personal life plus the motives that drove her to become and outstanding anthropologist.

Morse, Ann and Patricia Dentler Frever. Margaret Mead: Herself. Mankato, MN: Creative Education, Inc., 1981, 31 p., illus. (8).

Mead's life as a successful anthropologist and author was detailed in this brief biography. The authors focused on Mead's insatiable need to learn about all people and her success in sharing her work with others.

Rice, Edward. Margaret Mead, A Portrait. New York: Harper & Row, Publishers, 1979, 204 p., illus. (9).

Margaret Mead's remarkable life was interestingly told in this biography. The author described Mead's work studying the people of different cultures around the world and her personal life as a wife, mother and grandmother.

Saunders, Susan. Margaret Mead: The World Was Her Family. New York: Viking Kestrel (Women of Our Time), 1987, 56 p., illus. (7).

Margaret Mead was a curious child. As her family moved from house to house, Mead made it a hobby to study all the people around her. In this biography the author told how Mead turned her childhood hobby into a very successful career as an anthropologist.

Ziesk, Edra. Margaret Mead. New York: Chelsea House (American Women of Achievement), 1990, 109 p., illus. (9).

Margaret Mead brought a great deal of interest and notoriety to the field of anthropology through her detailed studies of people from little known cultures throughout the world. Her life and her work was wonderfully described in this well written biography.

ASTRONOMY

Maria Mitchell

Both of these books about the life of Maria Mitchell are excellent. Stephanie McPherson's version may appeal more to today's young reader.

Baker, Rachel and Joanna Baker Merlen. America's First Woman Astronomer, Maria Mitchell. New York: Julian Messner, 1960, 192 p., illus. (7).

Maria Mitchell discovered a new comet which was named for her. This easily understood and interestingly written book told the story of her life in a dramatic style

McPherson, Stephanie S. Rooftop Astronomer, A Story About Maria Mitchell. Minneapolis: Carolrhoda Books, 1990, 64 p., illus. (7).

This was a superb account of Maria Mitchell's fascinating life as America's first woman astronomer. Some of her more notable accomplishments included discovering a comet, which was later named after her, becoming the first woman college professor at Vassar, and working for the women's rights movement.

AVIATION/AEROSPACE ENGINEERING

Included in this section are numerous wonderful biographies about Amelia Earhart. Of special note are the books by Blythe Randolph, Jane Leder, and Robert Quackenbush. Randolph's book is an excellent all-around version of Earhart's life. Leder's book provides the reader with a different perspective surrounding her mysterious disappearance. The book by Robert Quackenbush provides an entertaining and humorous way to introduce readers to Amelia Earhart. Readers can also learn about other successful women aviators through several superb biographies about Jacqueline Cochran and Anne Morrow Lindbergh. Also included in this section are several excellent books about women astronauts. The biography about Valentina Tereshkova, the first woman in space, is particularly captivating.

Jacqueline Cochran

Fisher, Marquita O. Jacqueline Cochran, First Lady of Flight. Champaign, IL: Garrard Publishing, 1973, 96 p., illus. (7).

Orphaned when she was a baby and raised in poverty, Jacqueline Cochran was determined to gain her independence and rise from her modest beginnings. The young reader would enjoy reading this book about the first woman pilot to break the sound barrier.

Smith, Elizabeth Simpson. Coming Out Right. New York: Walker and Company, 1991 , 114 p., illus. (8).

The long list of accomplishments of Jacqueline Cochran was dramatically portrayed in this biography of Cochran's amazing life as she became the first woman aviator to break the sound barrier.

Amelia Earhart

Earhart, Amelia. Last Flight. New York: Orion Books, 1967, 135 p., illus. (8).

Edited by George Putnam, Earhart's husband, this autobiography offered the reader a unique insight to Earhart's own thoughts and feelings about her successes and failures. Excerpts from her diary and letters written before and during her last fatal flight were included.

Brown, Fern G. Amelia Earhart Takes Off. Niles, IL: Albert Whitman & Company, 1985, 61 p., illus. (6).

This short biography had captivating text and wonderful illustrations that would entice many young readers to learn more about Amelia Earhart. The highlights of Earhart's life were described very well in this simplified version.

Chadwick, Roxanne. Amelia Earhart, Aviation Pioneer. Minneapolis: Lerner Publications, 1987, 56 p., illus. (6).

In 1932 Amelia Earhart became the first woman to fly solo across the Atlantic. This well written biography followed Earhart's life from her childhood in Kansas to her last attempt to fly around the world in 1937.

Davis, Burke. Amelia Earhart. New York: G. P., Putnam's Sons, 1972, 183 p., (7).

This account of Amelia Earhart's life was written in an interesting style that most young readers would enjoy.

Kerby, Mona. Amelia Earhart, Courage in the Sky. New York: Viking (American Women Of Our Time), 1990, 57 p., illus. (7).

This book followed the life of the pilot who was the first woman to cross the Atlantic by herself in a plane. The author stressed Earhart's determination to fly and her many achievements.

Lauber, Patricia. Lost Star, The Story of Amelia Earhart. New York: Scholastic, 1988, 106 p., illus. (6).

Tracing Earhart's life from her childhood days in Atchison, Kansas, to her disappearance in the Pacific Ocean, the author described Earhart's fascinat-

ing life. Many photographs of Earhart and important people and events in her life complemented the text.

Leder, Jane. Amelia Earhart: Great Mysteries, Opposing Viewpoints. San Diego: Greenhaven Press, 1989, 112 p., illus. (7).

This book was a superb account of Earhart's life and the mystery surrounding her disappearance. The author offered many theories that attempted to explain the events that took place after Earhart disappeared. Many unanswered questions were left to the reader's imagination.

Parlin, John. Amelia Earhart, Pioneer in the Sky. Champaign, IL: Garrard Publishing, 1962, 80 p., illus. (easy).

This dramatically written account of Earhart's life was an excellent book for the less advanced reader. The author described the not able events in Earhart's life as an aviator and courageous woman.

Randolph, Blythe. Amelia Earhart. New York: Franklin Watts, 1987, 128 p., illus. (8).

This biography gave a substantial account of Earhart's life. The author dramatically revealed Earhart's unsettled childhood, adult motives and achievements. Many wonderful photographs accompanied this well written biography.

Sabin, Francene. Amelia Earhart, Adventure in the Sky. Mahwah, NJ: Troll, 1983, 48 p., illus. (6).

This abbreviated and simplified version of Earhart's life emphasized the events in her childhood that led to her life as an adventurous adult.

Shore, Nancy. Amelia Earhart, Aviator. New York: Chelsea House (American Women of Achievement), 1987, 111 p., illus. (7).

The mystery of Amelia Earhart's disappearance and the courageous story of her life was dramatically told by the author. Numerous detailed photographs and newspaper clippings supplemented the detailed portrayal of Earhart.

Tames, Richard. Amelia Earhart. New York: Franklin Watts, 1989, 32 p., illus. (8).

The author traced the life of the pilot who became the first woman to fly across the Atlantic Ocean. In 1937 Earhart mysteriously disappeared while attempting to fly around the world.

Quackenbush, Robert. Clear the Cow Pasture, I'm Coming in for a Landing. New York: Simon & Schuster, 1990, 36 p., illus. (5).

The author used humor, accompanied by detailed illustrations, to describe concisely Earhart's life as an independent child who later grew up to make her mark as a courageous woman in a man's world.

Anne Morrow Lindbergh

Chadwick, Roxanne. Anne Morrow Lindbergh, Pilot and Poet. Minneapolis: Lerner Publications, 1987, 56 p., illus. (6).

The story of Anne Morrow Lindbergh's life was beautifully told in this biography. She was an independent, strong woman who strove to succeed. She became an accomplished aviator and writer. This wonderfully written book was captivating and enthralling.

Judith Resnik

Bernstein, Joanne E. and Rose Blue. Judith Resnik, Challenger Astronaut. New York: Lodestar Books, 1990, 112 p., illus. (8).

Dr. Judith Resnik became the first Jewish person in space in 1984. Resnik received a degree in electrical engineering and a Ph.D. from the University of Maryland. This biography skillfully described Resnik's life to its tragic end in 1986 aboard the space shuttle Challenger.

Sally Ride

Behrens, June. Sally Ride Astronaut, An American First. Chicago: Children's Press, 1984, 30 p., illus. (5).

In 1983 Sally Ride became the first American woman in space. This was a brief description of her life and work as an astronaut.

Blacknall, Carolyn. Sally Ride, America's First Woman in Space. Minneapolis: Dillon Press, 1984, 78 p., illus. (8).

In 1983, aboard the space shuttle Challenger, Sally Ride became America's first woman in space. This book profiled Ride's life as her interests in science and math grew to a career as an astronaut. Excellent photographs accompanied the interestingly written text.

Hurwitz, Jane and Sue Hurwitz. Sally Ride. New York: Fawcett Columbine, 1989, 115 p., illus. (7).

This biography focused on Sally Ride's life as the first American woman in space. The authors described her training missions, learning to fly a jet, her heroic flight in space and her life after NASA.

O'Connor, Karen. Sally Ride and the New Astronauts: Scientists in Space. New York: Franklin Watts, 1983, 88 p., illus. (6).

This book briefly discussed the events in Sally Ride's life that lead to her becoming a shuttle astronaut. The book additionally described the shuttle training program and introduced many of the other shuttle astronauts to the reader. Several detailed photographs complemented the text.

Valentina Tereshkova

Sharpe, Mitchell R. "It is I, Sea Gull," Valentina Tereshkova, First Woman in Space. New York: Thomas Y. Crowell Company, 1975, 254 p., illus. (7).

This excellent biography described the remarkable events in Tereshkova's life, growing up in the Soviet Union, and later becoming the first woman in space. The book additionally provided an excellent historical background of the Soviet space program.

BIOLOGY

Barbara McClintock

Barbara McClintock led an amazing life; however, there was very little written about it. Both of these books provide an excellent way to learn more about her work and her personal life. The book by Mary Kitteredge explained McClintock's life and work in genetics in a more simplified language for the young reader.

Keller, Evelyn Fox. A Feeling for the Organism, The Life and Work of Barbara McClintock. San Francisco: W. H. Freeman and Company, 1983, 233 p., illus. (advanced).

This biography provided a revealing portrait of McClintock's life as a leading researcher in genetics. Her discoveries regarding genes and chromosomes won her criticism, at first, and later worldwide recognition. The author interestingly chronicled McClintock's life and work for the advanced reader.

Kitteredge, Mary. Barbara McClintock, Biologist. New York: Chelsea House (American Women of Achievement), 1991, 102 p., illus. (9).

Barbara McClintock won a Nobel Prize in 1983 for her discoveries in genetics. When McClintock first had announced her discoveries more than 30 years earlier, many scientists thought she was crazy. This was an excellent detailed biography of McClintock's life and work.

CHEMISTRY/PHYSICS

Marie Curie

Marie Curie is probably the most well-known woman scientist. Several of the excellent books written about her life are listed below. The biography by Richard Tames does a wonderful job explaining her work and the significance of her discoveries. The book by Curie's daughter, Eve, provides a special insight for the advanced reader to Curie's life.

Brandt, Keith. Marie Curie: Brave Scientist. Mahwah, NJ: Troll Associates, 1983, 48 p., illus. (6).

Marie Curie became the first woman to receive the Nobel Prize, and in 1911 she became the first person to receive two Nobel Prizes. This biography told the story of her life as a young girl in Poland and her struggle to study science. The author wrote in a simplified language for most young readers to comprehend.

Bull, Angela. Marie Curie. London: Hamish Hamilton, 1986, 62 p., illus. (8).

Marie Curie's eventful life was wonderfully portrayed in this biography. The author described the details of Curie's work and life in a simple language for young readers to understand.

Conner, Edwina. Marie Curie. New York: The Bookwright Press, 1987, 32 p., illus. (8).

This concise account of Marie Curie's life recalled the struggles in her childhood in Poland and later in France. The author did an excellent job in portraying Curie's life as she dedicated herself to science.

Curie, Eve. Madame Curie. New York: Doubleday, Doran & Company, Inc., 1937, 412 p., (advanced).

Eve Curie, daughter of Marie Curie, wrote about her mother's life in this biography. The author described Marie Curie's years from her childhood in Poland to her adult years in Paris. The Curie's work with radium and personal struggles and accomplishments were all included in this detailed biography.

DeLeeuw, Adele. Marie Curie, Woman of Genius. Champaign, Illinois: Garrard Publishing Company, 1970, 144 p., illus. (6).

The story of Marie Curie's courageous life was well told in this concise biography. Curie's accomplishments and tragedies were dramatically revealed.

Dunn, Andrew. Marie Curie. New York: The Bookwright Press, 1991, 45 p., illus. (7).

Marie Curie led both a successful and tragic life. The author skillfully led you through Curie's days as a troubled child in Warsaw under Russian rule, to her life in Paris as a woman scientist who struggled to raise her children and dedicate her life to her work.

Greene, Carol. Marie Curie, Pioneer Physicist. Chicago: Children's Press, 1937, 112 p., illus. (7).

Marie Curie's life was told in great detail in this biography. The author used photographs and excerpts from Curie's daughter's biography to reveal the intriguing and courageous events in the life of this remarkable woman.

Henry, Joanne Landers. Marie Curie, Discoverer of Radium. New York: Macmillan Company, 1966, 44 p. illus. (8).

In simple, interesting, language this biography revealed the events in Marie Curie's life that led her to the discovery of radium. Detailed illustrations accompanied the well written text.

McKown, Robin. Marie Curie. New York: G. P., Putnam's Sons, 1971, 95 p., illus. (9).

The amazing story of Marie Curie's life was interestingly told in this biography. The author detailed her work with radium and her successes with the x-ray in World War I.

Montgomery, Mary. Marie Curie. Englewood Cliffs, NJ: Silver Burdett Press, 1990, 104 p. illus. (7).

This wonderfully written biography told the story of Marie Curie's life from her childhood in Poland to her life as one of the world's greatest scientists. The struggles she faced being woman in a male dominated field were clearly evident, as well as her determination to achieve and help others.

Steinke, Ann E. Marie Curie and the Discovery of Radium. Hauppauge, NY: Children's Press Choice, 1987, 123 p., illus. (7).

Marie Curie was a Polish-born scientist who, with her husband, discovered radium. The author of this biography chronicled Curie's life through the many tragic and joyous events that occurred. Curie's courage and determination were evident throughout this book.

Tames, Richard. Marie Curie. New York: Franklin Watts, 1990, 32 p., illus. (7).

This was an excellent biography about the life of Marie Curie. The well written text was accompanied by detailed drawings and photographs of Curie, her family and her work. The author emphasized Curie's work with radium and the positive and negative effects it had on her life and the lives of many others.

Veglahn, Nancy. The Mysterious Rays: Marie Curie's World. New York: Coward, McCann & Geoghegan, 1977, 63 p., illus. (8).

This biography focused on the events that led to Marie Curie's discovery of radium. The author explained the technical aspects of Curie's work in a language young readers could understand. Curie's hard work and determination was effectively de tailed throughout the book.

Ellen Swallow Richards

Douty, Esther M. America's First Woman Chemist. New York: Julian Messner, 1961, 191 p., (8).

This biography detailed the life of Ellen Swallow Richards, the first woman to have graduated with a degree in chemistry from the Massachusetts Institute of Technology. The author beautifully told Richard's story in a language that most young readers would enjoy.

COMPUTER SCIENCE

Grace Hopper

Billings, Charlene. Grace Hopper, Navy Admiral and Computer Pioneer. Enslow Publishers, 1989, 128 p., illus. (8).

Grace Murray Hopper made significant contributions to the field of computer science. She developed COBOL, a programming language still in use today. The author skillfully described Hopper's life as a successful teacher, officer in the U.S. Navy, and computer expert.

ECOLOGY

Rachel Carson

Rachel Carson has been named the first ecologist of modern times. Several of the outstanding books that have been written about her life are listed here. Judith Harlan's Sounding the Alarm, Eve Stwertka's Rachel Carson, and Marty Jezer's Rachel Carson, Biologist and Author are three that are especially interesting and informative.

Brooks, Paul. The House of Life, Rachel Carson at Work. Boston: Houghton Mifflin Company, 1972, 350 p., illus. (9).

This was a detailed account of the life and work of Rachel Carson for the advanced reader. The author gave the reader an insight to her writing and her work conserving the earth.

Foster, Leila M. The Story of Rachel Carson and the Environmental Movement. Chicago: Children's Press, 1990, 31 p., (8).

This brief account of Rachel Carson's life focused on her work as a marine biologist and her efforts to inform the world of the dangerous pesticides being used. This biography explained the scientific terms and used a language geared toward the less advanced reader.

Goldberg, Jake. Rachel Carson. New York: Chelsea House, 1992, 79 p., illus. (7).

Rachel Carson was both a marine biologist and celebrated author. This book told the story of her heroic life as one of the first defenders of the environment. The author skillfully chronicled the life of this outstanding woman.

Harlan, Judith. Sounding the Alarm: A Biography of Rachel Carson. Minneapolis: Dillon Press, 1989 , 128 p., illus. (6).

Rachel Carson was often referred to as America's first ecologist. She was best known for her book, Silent Spring, which warned of the dangers of pesticides to wildlife and humans. This was an excellent account of Carson's life for the young reader.

Jezer, Marty. Rachel Carson, Biologist and Author. New York: Chelsea House (American Women of Achievement), 1988, 111 p., illus. (6).

This book was a detailed account of Rachel Carson's life for the young reader. The author focused on her courageous efforts to inform the world of the irresponsible use of lethal pesticides. Photographs and excerpts from Carson's books added to the readers enjoyment of the biography.

Kudlinski, Kathleen V. Rachel Carson: Pioneer of Ecology. New York: Viking Kestrel, 1988, 55 p., illus. (easy).

The story of Rachel Carson's life as an author and ecologist was wonderfully told in this biography. The author described Carson's courageous work and its worldwide impact.

Latham, Jean Lee. Rachel Carson, Who Loved the Sea. Champaign, IL: Garrard Publishing Company, 1973, 80 p., illus. (easy).

The author told the story of Rachel Carson's life in a simplified way that most young readers would understand. The beautiful illustrations complemented the well written text.

Sterling Philip. Sea and Earth, The Life of Rachel Carson. New York: Thomas Y. Crowell Company, 1970; 213 p., illus. (9).

The remarkable life of Rachel Carson as a scientist and author was wonderfully described in this biography. The author used detailed photographs to complement the well written text.

Stwertka, Eve. Rachel Carson. New York: Franklin Watts, 1991, 63 p., illus. (7).

This concise biography told the story of Rachel Carson's life from her childhood on a Pennsylvania farm to her life as a successful author and marine biologist, heroically informing the world of dangerous pesticides harming the environment. Accompanied by detailed photographs and a glossary for scientific terms, this was a well written account of Carson's notable life.

ETHOLOGY

Two women stand out as the pioneers in the field of ethology, the study of animals in their habitat: Jane Goodall and Dian Fossey. Although Goodall is the only one who has a biography especially for young readers, there are several more advanced books that the young reader would find engaging and informative.

Dian Fossey

Mowat, Farley. Woman in the Mists. New York: Warner Books, Inc., 1987, 378 p., illus. (advanced).

This was a wonderfully written book about Dian Fossey's remarkable life. The author used excerpts from Fossey's personal notes and journal that accurately revealed her thoughts and feelings about her life and her work. The advanced reader would enjoy this skillfully written biography. There were brief passages of violence and adult situations in this book.

Fossey, Dian. Gorillas in the Mist. Boston: Houghton Mifflin Company, 1983, 326 p., illus. (advanced).

In this book by Dian Fossey, she detailed her work studying the mountain gorillas of the Virunga Mountains shared by Zaire, Rwanda and Uganda in Africa. Fossey described the behaviors of the different groups of gorillas she studied in great depth. The advanced reader would learn a great deal about her incredible work and passion to protect this species from its enemies.

Jane Goodall

Coerr, Eleanor. Jane Goodall. New York: G. P. Putnam's Sons, 1976, 61 p., illus. (6).

As a young child Jane Goodall was fascinated with animals and knew she wanted to spend her life studying them. Her curiosity followed her to adulthood as she spent many years studying chimpanzees in Africa. This was a well written biography with beautiful illustrations.

Fox, Mary Virginia. Jane Goodall, Living Chimp Style. Minneapolis: Dillon Press, 1981, 47 p., illus. (easy).

The author skillfully described Jane Goodall's life and work in this brief biography. The reader would gain an understanding of Goodall's accomplishments in Africa studying chimpanzees.

Goodall, Jane. My Life with the Chimpanzees. New York: Pocket Books, 1988, 123 p., illus. (5).

This was a wonderfully written autobiography. Goodall did an excellent job explaining to the young reader what she did as an ethologist and the events in her life that led her to her work.

Goodall, Jane. My Friends-The Wild Chimpanzees. Washington D.C.: The National Geographic Society, 1967, 204 p., illus. (advanced).

Jane Goodall detailed her life and work with the Gombe Stream chimpanzees in this book. Her exciting discoveries about the chimpanzees have earned her worldwide recognition. Beautiful color photographs enhanced the interesting text.

GEOLOGY

Mary Anning

Blair, Ruth Van Ness. Mary's Monster . New York: Coward, McCann & Geoghegan, Inc., 1975, 61 p., illus. (7).

As a young girl, Mary Anning discovered an enormous skeleton in the cliffs near Lyme Regis, England. Her discovery would soon be known as an Ichthyosaurus. This was the first of many discoveries in her life. As the author told the story of Anning's discovery , a fascinating picture of English life and scientific discovery emerged.

MEDICINE

Physicians, nurses, and medical researchers are all included in this group of biographies of women in the medical fields. This section contains a variety of women and medical specialties.

Emily Barringer

Noble, Iris. First Woman Ambulance Surgeon, Emily Barringer. New York: Julian Messner, 1962, 192 p., (8).

Emily Barringer became the first woman doctor to intern in a hospital, a position that entitled her to practice medicine on equal terms with men. This biography described the harsh treatment Barringer endured as she strove for acceptance as an equal in the medical profession.

Clara Barton

There are many wonderful books about Clara Barton's life listed below. Cathy East Dubowski's Clara Barton Healing the Wounds does and especially outstanding job in describing Barton's life.

Bains, Rae. Clara Barton, Angel of the Battlefield. Mahwah, NJ: Troll Associates, 1982, 48 p., illus. (6).

This was a brief account of Barton's life that emphasized the events in her childhood which influenced her successful future. This simplified version was excellent for the less advanced reader.

Boylston, Helen Dore. Clara Barton, Founder of the American Red Cross. New York: Random House, 1955, 182 p., illus. (6).

Clara Barton's work as a battlefield nurse during the Civil War eventually led her to establish the American Red Cross. Barton's remarkable life was interestingly told in an understandable language for young readers.

Dubowski, Cathy East. Clara Barton, Healing the Wounds. Englewood Cliffs, NJ: Silver Burdett Press, 1991, 120 p., illus. (7).

This was a well written version of Clara Barton's courageous life. Along with the interesting text were wonderful photographs, maps and detailed time lines of historical events that paralleled and directly affected Barton's life.

Fishwick, Marshall W. Illustrious Americans, Clara Barton. Morristown, NJ: Silver Burdett Company, 1966, 240 p., illus. (8).

This was a three part biography which included the story of Barton's life, a picture portfolio, and excerpts from Barton's journals, letters and personal papers. This detailed account of Barton's life was interestingly written for the advanced reader.

Hamilton, Leni. Clara Barton, Founder of the American Red Cross. New York: Chelsea House (American Women of Achievement), 1988, 111 p., illus. (7).

This was a complete account of Clara Barton's life from her childhood to her life's work helping those in need. With numerous photographs and excerpts form Barton's own journals, the author interestingly told the story of Barton's life.

Sonneborn, Liz. Clara Barton, Founder of the American Red Cross. New York: Chelsea House, 1992, 79 p., illus. (7).

The exciting story of Clara Barton's life was revealed in a dramatic style in this biography. The author skillfully exposed Barton's shy nature and how she overcame this shyness to become so successful.

Mary Ann Bickerdyke

DeLeeuw, Adele. Civil War Nurse, Mary Ann Bickerdyke. New York: Julian Messner, 1973, 158 p., (9).

Mary Ann Bickerdyke devoted her life to the care of wounded and ill Union soldiers. The author beautifully told the story of her life as a Civil War nurse. The text was captivating and interestingly written.

Elizabeth Blackwell

Of the numerous books about Elizabeth Blackwell, Jordan Brown's version of Blackwell's life is particularly interesting and informative.

Baker, Rachel. The First Woman Doctor: The Story of Elizabeth Blackwell, M. D. New York: Julian Messner, 1944, 246 p., (6).

This biography was a detailed account of Blackwell's life. The author dramatically revealed her childhood, as well as her outstanding accomplishments as an adult.

Brown, Jordan. Elizabeth Blackwell, Physician. New York: Chelsea House (American Women of Achievement), 1987, 109 p., illus. (7).

The author excellently portrayed Elizabeth Blackwell's struggle to overcome opposition from the all male medical establishment in order to become the first woman doctor. The beautiful illustrations and photographs enhanced the skillfully written text.

Sabin, Francene. Elizabeth Blackwell, The First Woman Doctor. Mahwah, NJ: Troll Associates, 1982, 48 p., illus. (5).

This was a brief account of Blackwell's notable life. The author emphasized the events in Blackwell 's childhood that influenced her in later years. This simplified version of Blackwell's life was excellent for the less advanced reader.

Wilson, Dorothy Clarke. I Will Be a Doctor! Nashville: Abingdon Press, 1983, 160 p., (6).

Elizabeth Blackwell was the first woman to practice medicine in America and founded the first school of nursing in America. This biography wonderfully revealed the frustrations and triumphs of Blackwell's extraordinary life.

Dorthea Lynde Dix

Malone, Mary. Dorthea L. Dix. Champaign, IL: Garrard Publishing Company, 1968, 80 p., illus. (5).

Dorthea L. Dix devoted her life to helping those with mental illness and was instrumental in providing aid to soldiers wounded in the Civil War. This was an easy to understand book about Dix's interesting and successful life.

Alice Hamilton

Grant, Madeline. Alice Hamilton, Pioneer Doctor in Industrial Medicine. New York: Abelard-Schuman, 1967, 223 p., illus. (advanced).

This was a wonderfully told version of Alice Hamilton's life. Hamilton was a remarkable doctor who devoted her life to improving conditions for factory workers. She was also the first woman to be appointed to the faculty of Harvard Medical School.

Sister Elizabeth Kenny

Crofford, Emily. Healing Warrior, A Story About Sister Elizabeth Kenny. Minneapolis: Carolrhoda Books, 1989, 64 p., illus. (6).

Elizabeth Kenny, a self-taught nurse, developed a treatment for infantile paralysis (polio). Many people believed in her successful methods, but the medical community was reluctant to embrace her ideas. This was a beautifully told story about Sister Kenny's amazing life.

Florence Nightingale

Florence Nightingale's life is wonderfully described in the books listed. Specifically, Donna Shore's Florence Nightingale and Richard Tames' Florence Nightingale both do an excellent job engaging and informing the reader.

Bull, Angela. Florence Nightingale. London: Hamish Hamilton, 1985 , 60 p., illus. (8).

Florence Nightingale devoted her life to improving hospital conditions and establishing t he nursing profession. The author told the story of her incredible life with interesting text and illustrations.

Brown, Pam. Florence Nightingale. Milwaukee: Gareth Stevens Publishing, 1989, 68 p., illus. (7).

The extraordinary life of Florence Nightingale was beautifully told in this biography. The wonderful illustrations and photographs complemented the interestingly written text. The young reader would enjoy learning about Nightingale's notable accomplishments in this book.

Hume, Ruth Fox. Florence Nightingale. New York: Random House, 1960, 177 p., (6).

Nightingale's life from her childhood to her adult years full of endless accomplishments was wonderfully told in this biography. The author used a dramatic writing style to engage the young reader.

Leighton, Margaret. The Story of Florence Nightingale. New York: Grosset & Dunlop, 1952, 180 p., illus. (6).

This engaging biography revealed the notable events in Nightingale's life that led her to amazing accomplishments. As the founder of modern nursing, Nightingale's struggle to help those in need was dramatically disclosed in this book.

Nolan, Jeanette C. Florence Nightingale. New York: Julian Messner, 1946, 209 p., illus. (8).

Florence Nightingale was the founder of modern nursing. The struggles and successes of Nightingale's amazing life were well told in this biography.

Shore, Donna. Florence Nightingale. Englewood Cliffs, NJ: Silver Burdett Press, 1987, 104 p., illus. (6).

This dramatically written biography detailed Florence Nightingale's life with captivating text. The historical significance of Nightingale's many accomplishments was clearly evident in this well written book. The book also included beautiful illustrations, an appendix with background information and a historical chronology which allowed the reader to place Nightingale in the context of historical world events.

Tames, Richard. Florence Nightingale. New York: Franklin Watts, 1989, 32 p., illus. (8).

This was an excellent introduction to Florence Nightingale for young readers. The author used a lively text and wonderful illustrations to enhance the story of Nightingale's amazing life. The book also included Factfinder sections which helped place Nightingale's life in context with world events. A glossary enabled the reader to fully understand the more complicated terms.

Turner, Dorothy. Florence Nightingale. New York: The Bookwright Press, 1986, 101 p., illus. (7).

The author beautifully highlighted the significant events in Nightingale's life in this brief biography. Nightingale's tremendous effect on the profession of nursing and hospital care was clearly detailed in this book.

Linda Richards

Baker Rachel. America's First Trained Nurse, Linda Richards. New York: Julian Messner, Inc., 1962, 192 p., illus. (7).

Linda Richards became America's first graduate nurse in 1873. She devoted her life to improving health care standards and properly training nurses. This biography wonderfully described Richard's life, as well as the history of nursing in the late 1800's and early 1900's .

Florence Sabin

Kronstadt, Janet. Florence Sabin. New York: Chelsea House (American Women of Achievement), 1990, 110 p., illus. (8).

Florence Sabin devoted her life to science. She was the first woman to be elected to the National Academy of Sciences and also the first female professor at Johns Hopkins University. This wonderfully written biography described Sabin' s life as a leader in the field of medical research.

Phelan, Mary Kay. Probing the Unknown, The Story of Dr. Florence Sabin. New York: Thomas Y. Crowell Company, 1969, 176 p., (9).

Florence Sabin's brilliant career in medical research was wonderfully described in this biography. Additionally, Sabin's work reforming the public health system in Colorado was dramatically detailed.

Margaret Sanger

Topalian, Elyse. Margaret Sanger. New York: Franklin Watts, 1984, 112 p., illus. (9).

Margaret Sanger spent her life dedicated to bringing safe and legal birth control to American women. This biography described Sanger's remarkable work and personal life. This detailed account of Sanger's life was suited for the advanced reader.

Ida Scudder

Wilson, Dorothy Clarke. Dr. Ida. New York: McGraw-Hill Company, 1959, 358 p., illus. (advanced).

Dr. Ida Scudder devoted her life as a missionary in India to improving health care for the poorly treated women in that country. Her work lives on today in the vast medical center she began at Vellore, India. The author skillfully told Scudder's story for the advanced reader.

Clara Swain

Wilson Dorothy Clarke. Palace of Healing: The Story of Dr. Clara Swain, First Woman Missionary Doctor, and the Hospital She Founded. New York: McGraw-Hill Company, 1968, 245 p., (advanced).

This is a detailed account of the life of Dr. Clara Swain for the advanced reader. Swain became the first woman missionary doctor in India in 1870. Her life, as well as a historical look at India, was described in this biography.

Lillian Wald Williams, Beryl. Lillian Wald, Angel of Henry Street. New York: Julian Messner, Inc., 1948, 216 p., (7).

This was a detailed account of Lillian Wald's life as a nurse in New York City. The author interestingly revealed Wald's many accomplishments.

COLLECTIVE BIOGRAPHIES

This section includes collective biographies that cover many sciences and many women. The American Women in Science series by Mary Ellen Verheyden-Hilliard is especially notable because of its attention to minority women working in physical science career.

Archaeology

Williams, Barbara. Breakthrough: Women in Archaeology. New York : Walker and Company, 1981, 174 p., illus. (9).

This book contained six well written biographies of successful women archaeologists. The author also provided information on making archaeology a career and listed archaeological field schools, departments of archaeology and museum departments.

Aviation/Space

Fox, Mary Virginia. Women Astronauts Aboard the Shuttle. New York: Julian Messner, 1984, 135 p., illus. (7).

This book examined the lives and work of the first eight women to become astronauts. Biographical sketches of the astronauts were accompanied by details of the astronaut training program. This was an excellent book that showed the role of women in today's space program.

Hodgman, Ann and Rudy Djabbaroff. Skystars, The History of Women in Aviation. New York: Antheneum, 1981, 182 p., illus. (advanced).

This book dramatically followed the history of women flyers. The authors discussed famous and lesser known women in aviation from the earliest aviators who flew in balloons, to modern flight including gliders and helicopters. The advanced reader would find this book informative, as well as interesting.

Hoyt, Mary Finch. American Women of the Space Age. New York: Antheneum, 1966, 88 p., illus. (7).

This book, published in 1966, described the roles women scientists played in the early years of America's space program. The author described women working in jobs such as astronomical and developmental researchers, electrical engineers, and aerospace medical researchers.

Lomax, Judy. Women of the Air. New York: Dodd, Mead & Company, 1986, 216 p., illus. (advanced).

This collection of biographies of women aviators covered aviation from the early days of ballooning to the women who have flown in space. The advanced reader would learn more about the history of aviation and also would find the lives of these women interesting.

Mondey, David. Women of the Air. Morristown, NJ: Silver Burdett, 1981, 64 p., illus. (7).

This was a wonderful collection of women in aviation. The author described the lives and accomplishments of aviators Amelia Earhart, Amy Johnson, Jean Batten, and Jacqueline Cochran. Excellent photographs and illustrations complemented the text.

Smith, Elizabeth Simpson. Women in Aviation. New York: Walker and Company, 1981, 158 p., (6).

This was an excellent collection of women in different areas of aviation. The author described women with careers such as a cargo pilot, aviation inspector, air traffic controller, aeronautical engineer, and flight engineer. This book was a wonderful source for young readers to learn about several careers related to aviation.

Chemistry/Physics

Riedman, Sarah R. Men and Women Behind the Atom. New York: Abelard-Schuman, 1958, 224 p., illus. (advanced).

This book outlined the contributions of many scientists which led to the discovery of atomic power. The book detailed the work of Marie Curie, and later Irene Curie, with radium and the construction of an atomic pile. This was an excellent source for learning about the history and discovery of atomic power, as well as learning about the men and women who made this discovery possible.

Ethology/Zoology/Veterinary Medicine

Facklam, Margery. Wild Animals, Gentle Women. New York: Harcourt Brace Jovanovich, 1978, 139 p., illus. (7).

This book wonderfully described the lives of 11 extraordinary women. All the women included worked with animals either in the animals own habitat (ethologists) or in captivity (zoologists). The author skillfully provided an informative journey into these women's lives.

Gutman, Bill. Women Who Work With Animals. Dodd, Mead & Company, 1982, 160 p., illus. (7).

Based on personal interviews, this book presented the stories of six women, all of whom have devoted their lives to working with animals in various careers. These biographies were interestingly written and were informative, as well as entertaining. The author also included advice for those young readers who aspire to work in similar careers.

Montgomery, Sy. Walking With the Great Apes. Boston: Houghton Mifflin Company, 1991, 280 p., (8).

This triple biography described the lives of three remarkable women, Jane Goodall, Dian Fossey, and Birute Galdikas. These three women have collected more scientific data on chimpanzees, mountain gorillas, and orangutans than anyone else. The author told how each woman became a scientific observer and a defender of each species.

General Sciences

Gilfond, Henry. Heroines of America. New York: Fleet Press, 1970, 136 p., illus. (8).

This book contained 21 biographies of remarkable American women. The scientists included were the following: Lillian D. Wald, Elizabeth Blackwell, Clara Barton, Margaret Sanger, Amelia Earhart and Maria Mitchell.

Haber, Louis. Women Pioneers of Science. New York: Harcourt Brace Jovanovich, 1979, 171 p., (8).

The lives and work of 12 women scientists were interestingly described in this book. A variety of sciences were represented including nuclear physics, biochemistry, marine biology and industrial medicine.

LeVert, Suzanne. The Doubleday Book of Famous Americans. New York: Doubleday, 1989, 305 p., (8).

This book profiled 101 famous Americans from all walks of life. The women scientists included were Clara Barton, Elizabeth Blackwell, Rachel Carson, Amelia Earhart, and Margaret Mead. These brief, interestingly written biographies would captivate the young reader.

McLenighan, ValJean. Women and Science. Milwaukee: Raintree Publishers, 1979, 48 p., (7).

The lives of six women scientists were wonderfully summarized in this book. Successful scientists included were Annie Jump Cannon, Rachel Carson, Alice Hamilton, Margaret Mead, Florence Sabin, and Chien Shiung Wu.

Nathan, Dorothy. Women of Courage. New York: Random House, 1964, 187 p., illus. (8).

The lives of five courageous women were detailed in this collection. Amelia Earhart and Margaret Mead were two women scientists that the author chose to include with this remarkable group. The brief biographies were interestingly written and captivating.

Noble, Iris. Contemporary Women Scientists of America. New York: Julian Messner, 1979, 158 p., illus. (8).

This was an excellent book for the advanced reader containing seven biographies of women scientists that were involved in their respective fields in the mid to late twentieth century. Science careers represented were the following: anthropology, meteorology, endocrinology, microbiology, marine biology, genetics, and nuclear and solid state physics.

Peavy, Linda and Ursula Smith. Dreams Into Deeds: Nine Women Who Dared. New York: Charles Scribner's Sons, 1985, 148 p., illus. (9).

The women in this book all grew up to do daring things, things that made the world better in one way or another. The women scientists included in this collection were Amelia Earhart, Rachel Carson, Alice Hamilton, and Margaret Mead.

Peavy, Linda and Ursula Smith. Women Who Changed Things, Nine Lives That Made a Difference. New York: Charles Scribner's Sons, 1983, 188 p., (8).

This book provided biographies of nine women who made significant contributions in the fields of medicine, religion, politics, business, art, education, and social action. The authors skillfully profiled remarkable women scientists such as, Sara Josephine Baker (medical inspector) and Williamina Fleming (astronomer). These women's accomplishments were great, yet their names were not well-known.

Shiels, Barbara. Winners: Women and the Nobel Prize. Minneapolis: Dillon Press, Inc., 1985, 254 p., illus. (7).

Biographies of eight women who have won the Nobel Prize were contained in this well written collection. The author also included a complete list of women Nobel Prize winners. Although not all of the winners represented were in the field of science, those that were included were the following: Rosalyn S. Yallow (medicine), Maria Goeppert Mayer (physics), Dorothy Crowfoot Hodgkin (chemistry), and Barbara McClintock (physiology).

Stoddard, Hope. Famous American Women. New York: Thomas Y. Crowell Company, 1970, 461 p., illus. (9).

The biographies of 41 famous American Women were included in this collection. The author briefly and interestingly profiled remarkable women scientists such as the following: Clara Barton, Dorthea Dix, Amelia Earhart, Margaret Mead, Maria Mitchell, Florence Sabin and Margaret Sanger.

Verheyden-Hilliard, Mary Ellen. American Women in Science. 10 vols. Bethesda, Maryland: The Equity Institute, 1985, illus. (6).

The author has written 10 brief biographies about women who have chosen science as a career. The scientists included Elma Gonzalez, Maria Cordero Hardy, Ru Chih Cheo Huang, Shirley Mathis McBay, Constance Tom Noguchi, Dixy Lee Ray, Sally Ride, Antoinette Rodez Schiesler, Agnes Naranjo Stroud-Lee, and Nancy Wallace. Although written in a simple language and format, the books provided an interesting look at these remarkable women.

Medicine

Fleming, Alice. Doctors in Petticoats. New York: J. B. Lippincott Company, 1964, 159 p., (9).

The lives of ten great women scientists in the field of medicine were interestingly described in this book. The scientists included Marie Curie, Mary Putnam Jacobi, Emily Barringer, Clara Swain, Alice Hamilton, Louise Pearce, Sara Jordan, Karen Horney, Leona Baumgartner, and Connie Myers Guion.

Gridley, Marion E. American Indian Women. New York: Hawthorn Books, Inc., 1974, 178 p., illus. (7).

This collection of concise biographies focused on the courage, determination and talent of a few of the American Indian women who have made significant contributions to their people and their country. Included in this collection was the inspiring description of the life of the first woman American Indian physician, Susan LaFlesche Picotte.

Hume, Ruth Fox. Great Women of Medicine. New York: Random House, 268 p., illus. (8).

The contributions of several great women to the field of medicine were wonderfully described in this biography. From the first woman doctor in America, Elizabeth Blackwell, to Florence Sabin, Alice Hamilton and Helen B. Taussig, the author briefly described their tremendous accomplishments.

Marks, Geoffrey and William K. Beatty. Women in White. New York: Charles Scribner's Sons, 1972, 239 p., illus. (8).

The history of women's struggle in the medical field was skillfully described through the biographies of several pioneer women doctors, nurses, and medical researchers. This book was geared toward the advanced reader.

Ranahan, Demrris C. Contributions of Women: Medicine. Minneapolis: Dillon Press, Inc., 118 p., illus. (9).

This book contained five brief biographies of women who have made significant contributions to the medical field. The common struggle for respect and recognition was skillfully described in each biography.

REFERENCE BOOKS

Kulkin, Mary-Ellen. Her Way, Biographies of Women for Young People. Chicago: American Library Association, 1976, 449 p.

This book contained 260 short profiles and bibliographies of notable women throughout history. Additionally, the author included a bibliography of over 300 collective biographies of women.

Olgive, Marilyn Bailey. Women in Science. Cambridge Massachusetts: The MIT Press, 1986, 254 p.

The author briefly profiled 186 women and provided basic biographical information. The easy-flowing narrative serves as a guide for future research.

Siegel, Patricia Joan and Kay Thomas Finley. Women in the Scientific Search: An American Bio-bibliography 1724-1979. Metuchen, NJ: The Scarecrow Press, Inc., 1985, 399 p.

This book contained over 1500 entries regarding biographies of women scientists. This was an excellent source for readers who are looking for more references for further study. Include with this remarkable group. The brief biographies were interestingly written and captivating.

Noble, Iris. Contemporary Women Scientists of America. New York: Julian Messner, 1979, 158 p., illus. (8).

This excellent book for the advanced reader contains seven biographies of women scientists that were involved in their respective fields in the mid to late twentieth century.